

8th, the earth of the prairies was cracked so as to make it dangerous to ride across them. The last rain fell here on the evening of July 29th. In Hood county, Texas, the drought and dust were extremely bad; on public roads the dust was a foot in depth. The *Springfield Daily Union* (Ills.) of November 24th states that the "drought in some parts of the west was so severe that water was carried from the Mississippi river at Louisiana, Mo., both east and west into Illinois and Missouri for a distance of 75 miles and nearly all railroads running from the river to the interior had a water train."

*Floods.*—Kansas City, Mo., on the 13th the Kaw river rose five feet in 24 hours, "heaviest freshet ever known" at that place.

## RELATIVE HUMIDITY.

The percentages of mean relative humidity for the month range as follows: New England, 69 to 83; Middle Atlantic States, 59 to 75; South Atlantic States, 61 to 77; Eastern Gulf States, 66 to 79; Western Gulf States, 58 to 75; Ohio valley and Tennessee, 59 to 69; Lower Lake region, 70 to 77; Upper Lake region, 67 to 82; Upper Mississippi valley, 63 to 69; Lower Missouri valley, 52 to 73; Red River of the North valley, 77 to 84; Northern Rocky Mountain Slope, 48 to 56; Texas, 16 to 88; Western Plateau, 47 to 64; California, 61 to 73; Oregon, 78 to 86. *High stations* report the following averages, not corrected for altitude: Mt. Washington, 90.4; Pikes Peak, 52.7; Santa Fe, 46.7; Denver, 49.3; Cheyenne, 39.7; Virginia City, 56.8.

## WINDS.

The prevailing winds, at Signal Service stations, are shown by the arrows, flying with the wind, on Chart No. II. The general direction along the Atlantic coast has been northerly, but at the interior stations, Atlanta, Augusta, Charlotte, Lynchburg, Albany and Burlington, and thence to the Southwest, Missouri, Illinois and Michigan, southerly. North and west of this region northwesterly winds predominated. On the Pacific coast they were southerly at Portland and Olympia, and northerly in California. Below are given some of the maximum velocities, in miles per hour, and some of the larger and smaller total monthly movements, registered at the Signal Service stations:

*Maximum Velocities of Winds.*—3rd, Thatcher's Island, E., 64 miles per hour; 6th, Ft. Custer, NW., 48; 9th, San Francisco, SE., 36; 10th, Key West, NW., 36; 11th, Red Bluff, SE., 42; Winnemucca, SW., 45; Salt Lake City, S., 28; th, Cheyenne, W., 48; Denver, NW., 34; North Platte, W., 54; Cairo, SW., 56; 16th, Dodge City, N., 48; 17th, Coleman, Tex., N., 48; 18th, Kittyhawk, N., 50; Indianola, N., 52; Galveston, N., 38; 19th, Ft. Stevenson, Dak., W., 60; Bismarek, N., 46; Pembina, NW., 40; St. Paul, NW., 46; Madison, NW., 40; Grand Haven, W., 42; Punta Rasa, NW., 46; 20th, Cape Henry, NW., 52 miles; Cape May, NW., 83; Sandy Hook, NW., 60; Sandusky, NW., 62; Morgantown, NW., 45; Atlanta, NW., 36; Cape Lookout, NW., 46; Albany, NW., 44; 24th, Breckenridge, NW., 44; 25th, Virginia City, NE., 36; 26th, Sacramento, N., 36; 28th, Pike's Peak, N. 80; Wood's Holl, S., 40; 29th, Cape May, NW., 50; 30th, Mt. Washington, NW., 108.

*Total Movements of the Air.*—The following are the largest total movements recorded in miles at the Signal Service stations, during the month: On the summit of Pikes Peak, 18,192 miles; Cape May, 14,347; Portsmouth, N. C., 12,103; Thatcher's Island, 12,068; Sandusky, 11,940; Cape Lookout, 11,561; Kittyhawk, 11,396; Sandy Hook, 11,367; Cape Henry, 10,642; Wood's Holl, 10,416; Indianola, 10,052; Erie, 10,056; Cape Hatteras, 9,938; Cleveland, 9,809; Key West, 9,589; Barnegat, 9,231. On the summit of Mt. Washington the working of the anemometer was interfered with by frost-work. The *smallest* are, Visalia, Cal., 1,457 miles; Socorro, N. M., 1,596; Deadwood, Dak., 1,659; La Mesilla, N. M., 1,744; Salt Lake City, 2,222; Lynchburg, 2,312; Nashville, 2,646; Uvalde, Tex., 2,652; Augusta, 2,781; Virginia City, 2,858; Ft. Davis, Tex., 2,888; Cedar Keys, Fla., 2,953; Dubuque, 2,976.

*Local Storms.*—Pageville, Cass co., Mo., 8th, 2:15 p. m., a severe tornado passed over the town from the southwest, destroying the depot building of the Pacific railroad, several stores and dwellings and a blacksmith's shop, all which was done in less than one minute. Several persons seriously and two fatally injured. An empty wagon, team and driver were carried about 100 yards. Near Fort Smith, Crawford, Co., Ark. 8th, about 3 p. m. a severe tornado accompanied with hail, (stones 2 or 3 inches in diameter,) passed to the northeastward. "The storm cloud looking like black smoke from a large furnace and its shape was like a funnel with its inside red as fire; the roaring was terrible and the cloud was filled with pieces of timber, branches of trees and fragments of clothing; everything was swept clean over the path of the storm which was very narrow; one person killed and several seriously injured." Detroit, Mich., 12th, 5 p. m. "a very destructive 'tornado' visited the northwestern part of the city, creating considerable havoc. The sky suddenly became overcast, a gale sprung up from the west and southwest which soon reached the velocity of a hurricane and swept houses, fences, gates &c. before it, the path was not over 500 feet wide." Rapids Parish, La., 14th, 'on Elmwood plantation, ten miles below Alexandria, twelve buildings were destroyed by a severe tornado. The track of the storm was about 250 yards wide and swept all objects before it; no lives were lost; the plantation bell weighing 300 pounds and numerous ploughs and parts of wagons were lifted up and transported long distances; entire loss estimated at \$10,000.' In Ouachita Parish, La., probably on the 14th, 'a tornado passed over Fisher's Landing, on Black river, destroying two or three houses and injuring several people;' Cairo, Ill., 14th, a "tornado, accompanied by hail and heavy rain struck the city at 1 p. m., demolishing several buildings and unroofing many others; one child was blown some distance and killed." Terre Haute, Ind., 14th, a. m., a violent wind and rain storm passed to the northeast, a